SGS U.S. Testing Company Inc.
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CLIENT: PALRAM INDUSTRIES, LTD
Ramat Yohanam 30035
Israel
Amir Sade

Test Report No: 170558.7 Date: September 23, 2002

SAMPLE ID: The Client submitted and identified the following test materials as Paluf/Palsun/Palsun Plus 3mm Flat Solid Polycarbonate sheets.

DATE OF RECEIPT: Entered into SGS USTC sample tracking system on August 13, 2002 as STN 35183.


AUTHORIZATION: Client’s Purchase Order No. 90354.

TEST REQUESTED: Perform standard flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with ASTM Designation E84-01, “Standard Method of Test for Surface Burning Characteristics of Building Materials”. The foregoing test procedure is comparable to UL 723, ANSI/NFPA No. 255, and UBC No. 8-1.

TEST RESULTS: Flame Spread Smoke Density

60 <450*

For detailed results see page 3.

*See observations on page 3.

Tested by

Brian Ortega
Test Technician

Signed for and on behalf of
SGS U.S. Testing Company Inc.

Greg Banasky
Supervisor Fire Technology

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PREPARATION AND CONDITIONING: The sample material was submitted in three pieces, 24" wide by 96" long, conforming to test chamber dimensions.

Prior to testing, the specimen was placed in the conditioning room (maintained at 73.4 ± 5°F and a relative humidity of 50 ±5%) and allowed to reach moisture equilibrium.

SUMMARY OF ASTM E84 RESULTS: Because of the possible variations in reproducibility, the results are adjusted to the nearest figure divisible by 5.

<table>
<thead>
<tr>
<th>SAMPLE IDENTIFICATION</th>
<th>FLAME SPREAD</th>
<th>SMOKE DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paltuf/Palsun/Palsun Plus</td>
<td>60</td>
<td>&lt;450*</td>
</tr>
<tr>
<td>3mm Flat Solid Polycarbonate sheets</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See observations on page 3.

In order to obtain the Flame Spread Classification, the above results should be compared to the following table:

<table>
<thead>
<tr>
<th>NFPA CLASS</th>
<th>UBC CLASS</th>
<th>FLAME SPREAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I</td>
<td>0 through 25</td>
</tr>
<tr>
<td>B</td>
<td>II</td>
<td>26 through 75</td>
</tr>
<tr>
<td>C</td>
<td>III</td>
<td>76 through 200</td>
</tr>
</tbody>
</table>

BUILDING CODES CITED:
E 84 TEST DATA SHEET:

CLIENT: Palram Industries, LTD  DATE: 8/29/02

SAMPLE: Paltuf/Palsun/Palsun Plus 3mm Flat Solid Polycarbonate sheets.

THICKNESS: 3mm nominal

FLAME SPREAD:

IGNITION: 1 minute, 27 seconds

FLAME FRONT: 19.5 feet maximum

TIME TO MAXIMUM SPREAD: 4 minutes, 38 seconds

TEST DURATION: 4 minutes, 45 seconds

CALCULATION: 4900/(195-111.54) = 68.71

SUMMARY: FLAME SPREAD: 60  SMOKE DENSITY: <450*

OBSERVATIONS: Sample surface ignition occurred at 1 minute, 27 seconds. A maximum flame front advance of 19.5 feet was observed at 4 minutes, 38 seconds. Floor burning was noted commencing at 3 minutes.

* Due to intense flaming and smoke production, the test was terminated at 4 minutes, 45 seconds. Had the test continued for the normal 10 minute period, the Flame Spread would have remained the same. From the value obtained at the time of termination, it is deemed that the Smoke Density value would be less than 450.
FLAME SPREAD
PALTUF/PALBUN/PALBUN PLUS 3MM FLAT SOLID
POLYCARBONATE SHEET

FEET

0 5 10 15 20

TIME (MINUTES)

--- SAMPLE --- RED OAK --- F. S. AREA

SMOKE DEVELOPED
PALTUF/PALBUN/PALBUN PLUS 3MM FLAT SOLID
POLYCARBONATE SHEET

% LIGHT ABSORPTION

0 20 40 60 80 100

TIME (MINUTES)

--- SAMPLE --- RED OAK

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End of Report
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